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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,256	06/27/2001	Nir N. Shavit	112047-0041	1883

21181	7590	09/24/2004		EXAMINER

WADDEY & PATTERSON
414 UNION ST SUITE 2020
NASHVILLE, TN 37219

TRUONG, CAMQUY

ART UNIT	PAPER NUMBER
2127	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _27 June 2001_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-42_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-42_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _6/27/01_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-42 are presented for examination.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3.   Claims 1-32, 35 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack proper antecedent basis:

i. The associated task queue – claims 1, 10, 15, 24, and 42.

B. The following claim language is indefinite:

i. As per claims 1, 10, 15, 24, 33 and 42 (lines 10 and 15), it is uncertain what the relationship is among " the associated task queue", " task – queue set ", " a LIPO access mode" and " a FIFO access mode ". (i.e. How the task- queue set relates to the LIFO/ FIFO access mode, what is the popping /pushing has to do with the LIFO/FIFO Access mode).

ii. As per claims 3,17, 26 and 35, it is unclear whether " the queue " refers to a task-queue in claim 1, line 2.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for
all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

5.   Claims 1-4, 8, 15-18, 22, 24-27, 31, 33-36, 40 and 42 are rejected under
35 U.S.C. 103(a) as being unpatentable over Cornaby (U.S. Patent 5,410,722).

6.   As to claims 1, 15, 24, 33, and 42, Cornaby teaches the invention
substantially as claimed including: A computer system configured to:

(A) Provide a task-queue set that includes at least queue in which can be
stored and from which can retrieved task identifier, which identify tasks to be
performed (abstract, col. 2, lines 5-7; col. 4, lines 2-4 and lines 32-34; col. 7, lines
38-41 and lines 56-58);

(B) For each task-queue, employ a separate execution thread associated
therewith to (col. 2, lines 47-49; col. 4, lines 2-4; col.8, lines 11-12):

i) Select repeatedly beaten a LIFO access mode and a FIFO
access mode in accordance with a mode-selection criterion (col. 4, line 64- col. 5,
line 3; col. 4, lines 49-51);

ii) Perform dynamically identified tasks (Abstract; col. 7, lines 38-41;
col. 4, lines 2-4):

(a) Popping a task identifier from the associated task queue in accordance with an access mode thus selected (col. 4, lines 14-15; col.5, lines 13-15; col.8, lines 7-8, lines 11-13 and lines 27-28).

(b) So performing the task thereby identified as, in at least some instances, to find one or more further tasks to be performed (col. 2, lines 25-30; col.5, lines 21-28);

(c) Pushing onto the task queue task identifiers that identify any tasks thus found (col.5, lines 36-40; col.8, lines 15-16 and line 28).

7.   Cornaby does not explicitly teach performing identified task is repeated. However, Cornaby teaches the system that receives <u>next task</u> for processing (col. 8, lines 23-24 and lines 31-32;).

8.   It would have been obvious to one of ordinary skill in the art at the time the invention was made that in fact Cornaby's system is capable of performing identified tasks repeatedly because his system can continuously receive tasks for processing.

9.   As to claims 2, 16, 25 and 34, Cornaby teaches pushing occurs at one, bottom end of the queue, popping in accordance with the FIFO access mode occurs at the other (col. 4, lines 64-67), top end of the queue, and popping in

accordance with the LIFO access mode occurs at the bottom end of the queue (col. 4, line 67 – col. 5, line 3).

10.   As to claims 3, 17, 26 and 35, Cornaby teaches the queue accesses are circular (col. 2, lines 24-27).

11.   As to claims 4, 18, 27 and 36, Cornaby teaches the task-queue set includes of plurality of the task queues (col. 2, lines 5-7).

12.   As to claims 8, 22, 31 and 40 Cornably teaches an execution thread associated with a task queue that is empty (col. 2, lines 31 –32; col. 3, line 67; col. 5, lines 9-12).

13.   Claims 5-7, 9,10-14, 19, 20-21, 23, 28-30, 32, 37-39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornaby (U.S. Patent 5,410,722) as applied to claims 1, 15, 24, and 33 above in view of Applicant Admitted Prior Art (AAPA).

14.   As to claim 10, Cornaby teaches the invention substantially as claimed including: define operation in which memory for data an object is allocated dynamically (abstract; col. 7, lines 38-40) includes:

(A) Provide a task-queue set that includes at least queue in which can be stored and from which can retrieved task identifier, which identify tasks to be performed (abstract, col. 2, lines 5-7; col. 4, lines 2-4 and lines 32-34; col. 7, lines 38-41 and lines 56-58);

(B) For each task-queue, employ a separate execution thread associated therewith to (col. 2, lines 47-49; col. 4, lines 2-4; col.8, lines 11-12):

i) Select repeatedly beaten a LIFO access mode and a FIFO access mode in accordance with a mode-selection criterion (col. 4, line 64- col. 5, line 3; col. 4, lines 49-51);

ii) Perform dynamically identified tasks (Abstract; col. 7, lines 38-41; col. 4, lines 2-4):

(a) Popping a task identifier from the associated task queue in accordance with an access mode thus selected (col. 4, lines 14-15; col.5, lines 13-15; col.8, lines 7-8, lines 11-13 and lines 27-28).

(b) So performing the task thereby identified as, in at least some instances, to find one or more further tasks to be performed (col.5, lines 21-28);

(c) Pushing onto the task queue task identifiers that identify any tasks thus found (col.5, lines 36-40; col.8, lines 15-16 and line 28).

15.   Cornaby does not explicitly teach the instructions that implement a garbage collection. However, AAPA teaches garbage collection. It would have

been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teaching of Cornaby and AAPA because AAPA's garbage

collection would provide the automatic reclamation of dynamically allocated

memory.

16.   As to claim 11, Cornaby teaches the task-queue set includes of plurality of

the task queues (col. 2, lines 5-7).

17.   As to claims 5, 9, 19, 23, 28, 32, 37, 41, AAPA teaches dynamically

identified task is the garbage-collection task of performing for a given object

associated with that task (page 1, lines 17-21);

Cornaby teaches processing that includes identifying in the given object

references to other objects and thereby identifying the tasks of performing similar

processing for those other objects (col. 2, lines 24-30; col. 3, lines 54-56; col. 5,

lines 21-28).

18.   As to claim 12, Cornably teaches an execution thread associated with a

task queue that is empty (col. 2, lines 31 –32; col. 3, line 67; col. 5, lines 9-12).

19.   As to claims 6, 13, 20, 29 and 38, Cornably teaches the task identifiers are

identifiers of the objects associated with tasks that the task identifiers identify

(col.4, lines 3-4; col. 7, line 39).

20.   As to claims 7, 14, 21, 30 and 39, Conably teaches the task identifiers are

pointer to the objects associated with the tasks that the task identifier identify

(col. 2, lines 26-31; col.3, lines 34-36).

Conclusion

21.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Camquy Truong whose telephone number is (703) 305 -

8888. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR of Public PAIP. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

have questions on access to the Private PAIP system, contact the Electronic Business

Center (EBC) at 866-217-9197(toll-free).

Camquy Truong

September 3, 2004

MENG-AI T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

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